

Golder Associates Qualitative Algal Analysis Report

Prepared: November 18, 2016

Prepared By: GreenWater Laboratories

Samples: 3 (collected 9/22/16)

1. Possum Point 160922-1543-1F
2. Possum Point 160922-1552-4F
3. Possum Point 160922-1603-13F

Sample 1: Possum Point 160922-1543-1F

One mL of sample preserved with Lugols Iodine Solution was allowed to settle and was observed at 400X and 100X using a Nikon Eclipse TE200 Inverted Microscope equipped with phase contrast optics. The dominant algae in the Possum Point 160922-1543-1F sample collected on 9/22/16 were the filamentous blue-green algae (Cyanobacteria) *Chrysosporum ovalisporum* (Figs. 1-4) and *Planktolyngbya f. limnetica* (Fig. 5). Other algal groups observed in the sample included green algae (Chlorophyta), diatoms (Bacillariophyceae), euglenophytes (Euglenophyta), yellow-green algae (Xanthophyceae) and dinoflagellates (Dinophyta). Potentially toxicogenic cyanobacteria species observed included *Chrysosporum ovalisporum*, *Pseudanabaena limnetica* (Fig. 6), *Limnothrix/Pseudanabaena* sp. (Fig. 7), *Phormidium* sp. (Fig. 8) and *Geitlerinema/Jaaginema* sp. (Fig. 9).

Sample 2: Possum Point 160922-1552-4F

One mL of sample preserved with Lugols Iodine Solution was allowed to settle and was observed at 400X and 100X using a Nikon Eclipse TE200 Inverted Microscope equipped with phase contrast optics. The dominant algae in the Possum Point 160922-1552-4F sample collected on 9/22/16 were the filamentous blue-green algae (Cyanobacteria) *Chrysosporum ovalisporum* and *Planktolyngbya f. limnetica* and the colonial blue-green alga *Cyanodictyon imperfectum* (Fig. 10). Other algal groups observed in the sample included green algae (Chlorophyta), diatoms (Bacillariophyceae), yellow-green algae (Xanthophyceae) and dinoflagellates (Dinophyta). Potentially toxicogenic cyanobacteria species observed included *Chrysosporum ovalisporum*, *Pseudanabaena limnetica*, *Limnothrix/Pseudanabaena* sp., *Geitlerinema/Jaaginema* sp. and *Geitlerinema splendidum* (Fig. 11).

Sample 3: Possum Point 160922-1603-13F

One mL of sample preserved with Lugols Iodine Solution was allowed to settle and was observed at 400X and 100X using a Nikon Eclipse TE200 Inverted Microscope equipped with phase contrast optics. The dominant algae in the Possum Point 160922-1603-13F sample collected on 9/22/16 were the filamentous blue-green algae (Cyanobacteria) *Chrysosporum ovalisporum* and *Planktolyngbya f. limnetica*. Other algal groups observed in the sample included green algae (Chlorophyta), diatoms (Bacillariophyceae), yellow-green algae (Xanthophyceae), euglenophytes (Euglenophyta) and desmids (Charophyta). Potentially toxicogenic cyanobacteria species observed included *Chrysosporum ovalisporum*, *Pseudanabaena limnetica*, *Limnothrix/Pseudanabaena* sp. and *Geitlerinema/Jaaginema* sp.

Cyano
LAB



Fig. 1 *Chrysosporum ovalisporum* 400X (Scale bar = 10 µm)

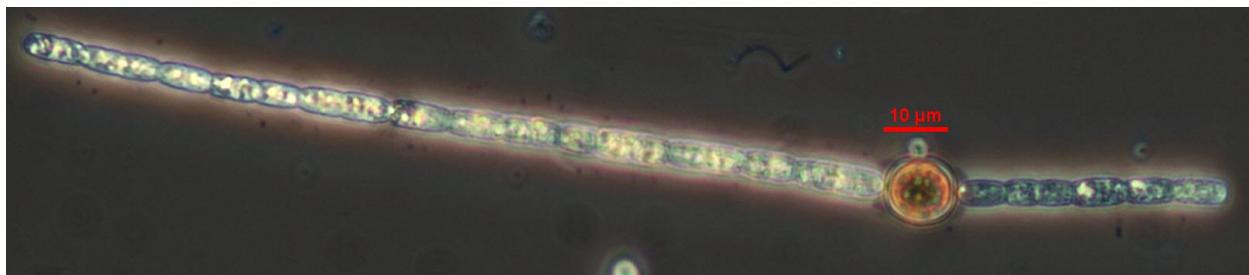


Fig. 2 *Chrysosporum ovalisporum* 400X (Scale bar = 10 µm)

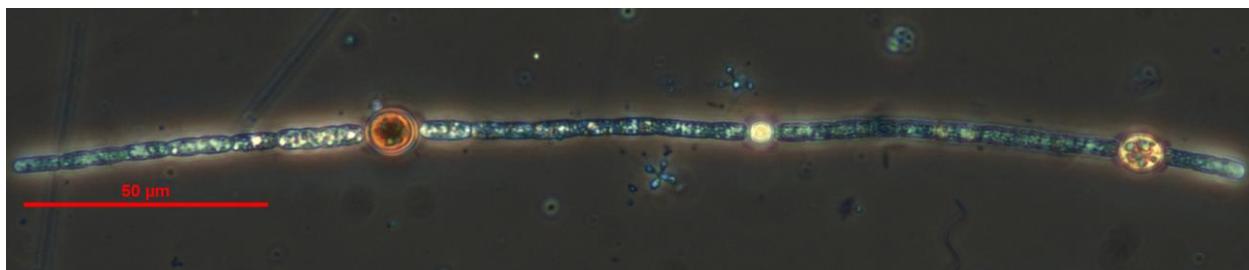


Fig. 3 *Chrysosporum ovalisporum* 400X (Scale bar = 50 µm)

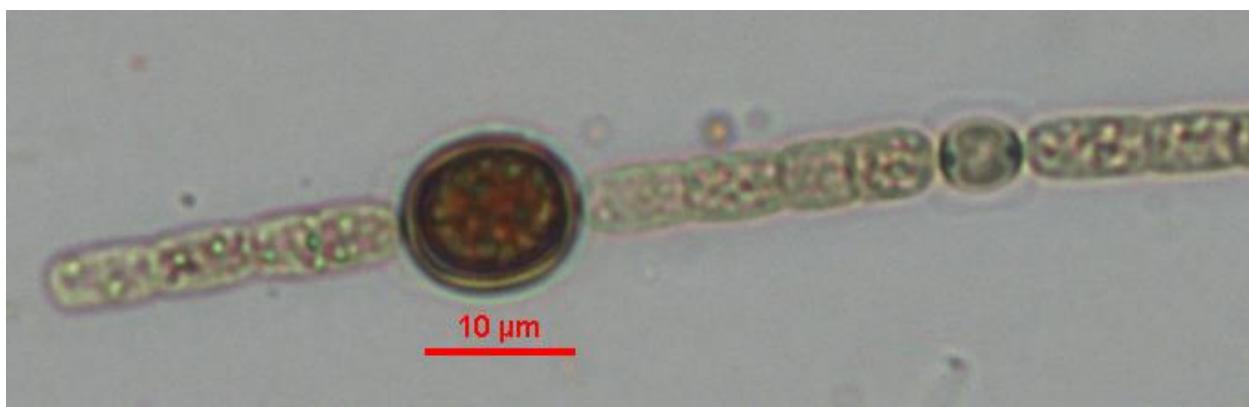


Fig. 4 *Chrysosporum ovalisporum* 400X (Scale bar = 10 µm)

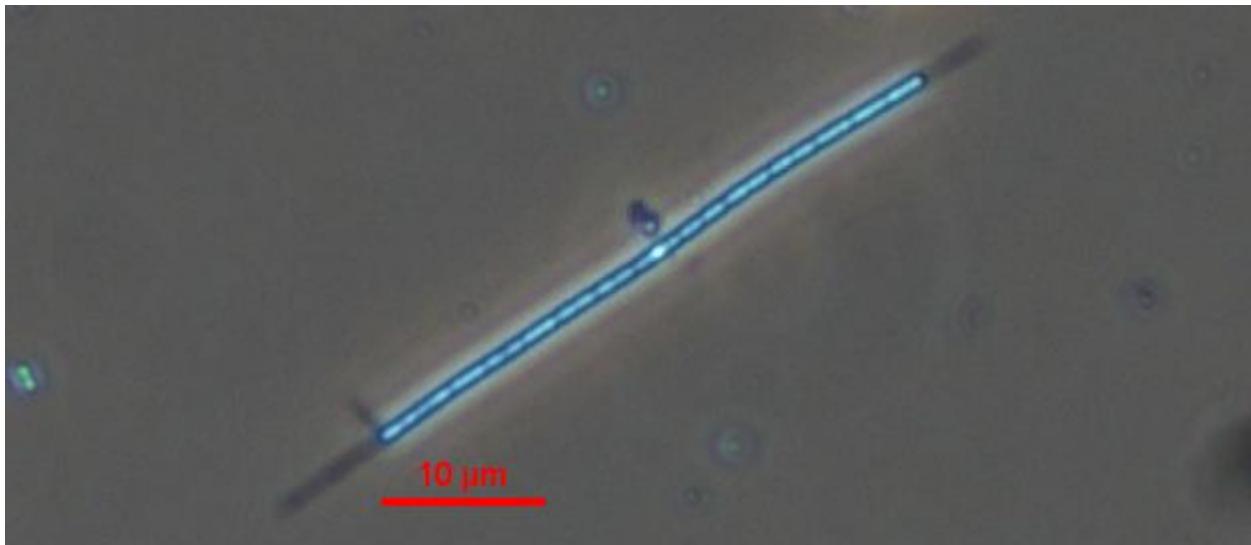


Fig. 5 *Planktolyngbya f. limnetica* 400X (Scale bar = 10 µm)

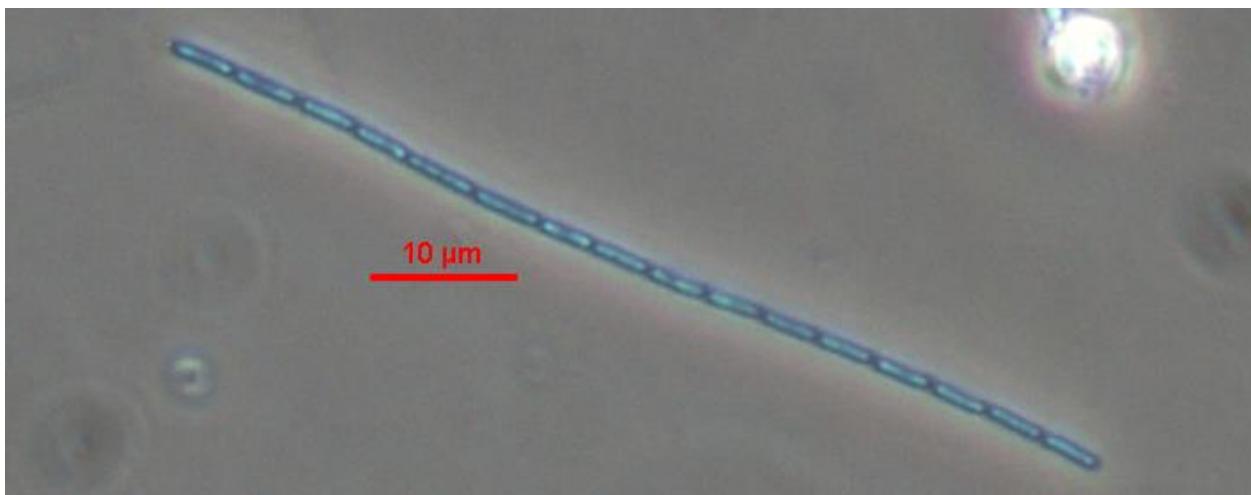


Fig. 6 *Pseudanabaena limnetica* 400X (Scale bar = 10 µm)

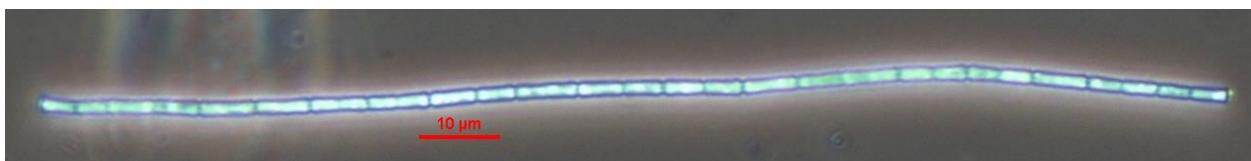


Fig. 7 *Limnothrix/Pseudanabaena* sp. 400X (Scale bar = 10 µm)

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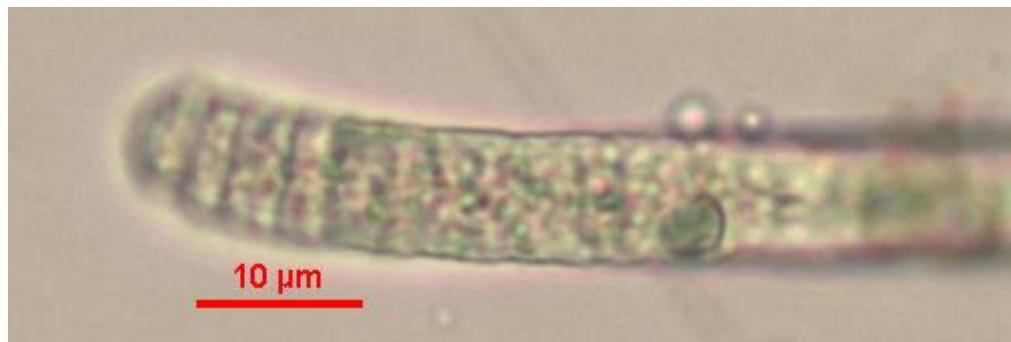


Fig. 8 *Phormidium* sp. 400X (Scale bar = 10 μm)

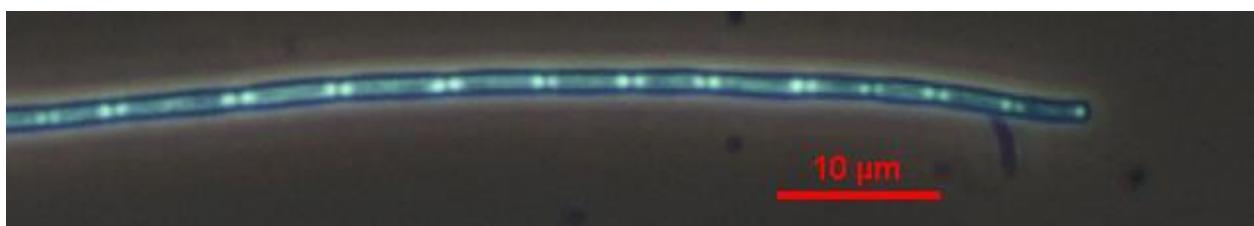


Fig. 9 *Geitlerinema/Jaaginema* sp. 400X (Scale bar = 10 μm)

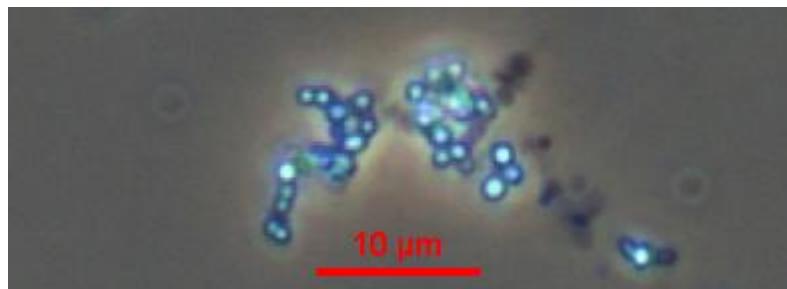


Fig. 10 *Cyanodictyon imperfectum* 400X (Scale bar = 10 μm)

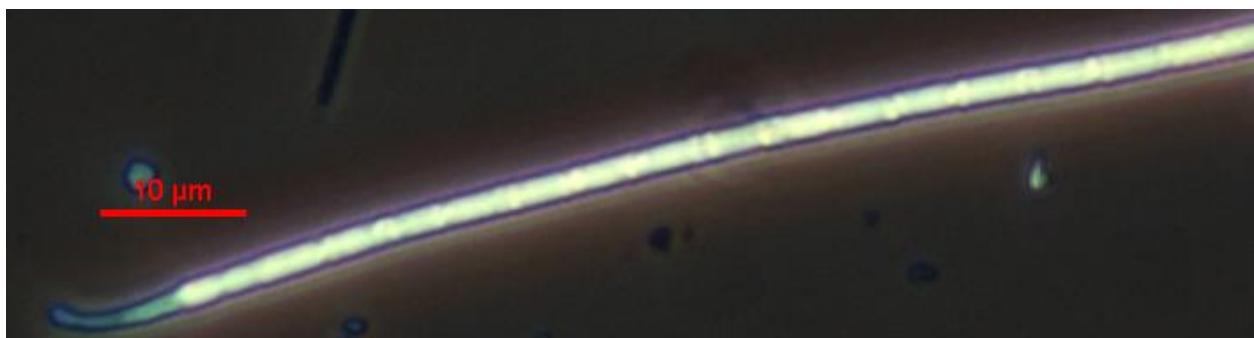


Fig. 11 *Geitlerinema splendidum* 400X (Scale bar = 10 μm)